

CLAIMS

I claim:

1. A method of transferring sound, comprising:
 - (a) storing the sound in a buffer;
 - (b) monitoring one or more sound attributes of the sound for indications of presence of a sound segment in the sound;
 - (c) transferring the sound in the buffer when the one or more sound attributes produce an indication of sound segment presence; and
 - (d) transferring the sound after the indication.
2. A method in accordance with claim 1, wherein the step of storing comprises storing the sound in a FIFO.
3. A method in accordance with claim 1, wherein the one or more sound attributes comprise sound intensity level, and first indication is produced when the sound intensity level exceeds a first threshold.
4. A method in accordance with claim 1, wherein the one or more sound attributes comprise spectral power densities of the sound, and the step of monitoring comprises monitoring the spectral power densities.
5. A method in accordance with claim 1, wherein the one or more sound attributes comprise at least one moving average of the sound intensity level, and the step of monitoring comprises monitoring the at least one moving average.
6. A method in accordance with claim 1, further comprising terminating said step (d) when the one or more sound attributes stop producing an indication of sound segment presence.

7. A method in accordance with claim 6, wherein:

said step (c) comprises recording the sound in the buffer on a recording medium when the one or more sound attributes produce the indication of sound segment presence; and

said step (d) comprises recording the sound on the recording medium following the indication of sound segment presence.

8. A method in accordance with claim 6, wherein:

said step (c) comprises transmitting the sound in the buffer when the one or more sound attributes produce the indication of sound segment presence; and

said step (d) comprises transmitting the sound following the indication of sound segment presence.

9. A method in accordance with claim 6, wherein:

said step (c) comprises reproducing the sound in the buffer when the one or more sound attributes produce the indication of sound segment presence; and

said step (d) comprises reproducing the sound following the indication of sound segment presence.

10. A method of transferring incoming sound, comprising:

(a) storing the incoming sound in a buffer;

(b) monitoring one or more attributes of the incoming sound to produce indications of sound segment presence and effective sound absence based on the one or more attributes;

(c) transferring a predetermined interval of the sound in the buffer when the one or more sound attributes produce an indication of sound segment presence, the predetermined interval extending to a point in time when the indication is produced;

(d) transferring the sound following the indication; and

(e) terminating said step (d) when the one or more sound attributes produce an indication of effective sound absence.

11. A method according to claim 10, wherein the step of storing comprises storing the incoming sound in a FIFO.

12. A method in accordance with claim 10, wherein the one or more sound attributes comprise sound intensity level, and the step of monitoring produces an indication of sound segment presence when the sound intensity level exceeds a first threshold.
13. A method in accordance with claim 10, wherein the one or more sound attributes comprise sound intensity level, and the step of monitoring produces an indication of effective sound absence when the sound intensity level is below a first threshold.
14. A method in accordance with claim 10, wherein the one or more sound attributes comprise sound intensity level, the step of monitoring produces an indication of sound segment presence when the sound intensity level exceeds a first threshold, and the step of monitoring produces an indication of effective sound absence when the sound intensity level is below a second threshold.
15. A method in accordance with claim 10, wherein the one or more sound attributes comprise sound intensity level, the step of monitoring produces an indication of sound segment presence when the sound intensity level exceeds a first threshold, and the step of monitoring produces an indication of effective sound absence when the sound intensity level is at or below the first threshold.
16. A method in accordance with claim 10, wherein the step of monitoring comprises monitoring spectral power densities of the sound.
17. A method in accordance with claim 10, wherein the step of monitoring comprises monitoring at least one moving average of the sound intensity level.
18. A method in accordance with claim 10, wherein:
said step (c) comprises recording the sound in the buffer on a recording medium when the step of monitoring produces an indication of sound segment presence; and

said step (d) comprises recording the sound on the recording medium following the indication of sound segment presence.

19. A method in accordance with claim 10, wherein:

said step (c) comprises wirelessly transmitting the sound in the buffer when the monitoring step produces an indication of sound segment presence; and

said step (d) comprises wirelessly transmitting the sound following the indication of sound segment presence.

20. A method in accordance with claim 10, wherein:

said step (c) comprises reproducing the sound in the buffer when the monitoring step produces an indication of sound segment presence; and

said step (d) comprises reproducing the sound following the indication of sound segment presence.

21. A method of sound-activated transfer of incoming sound, the method comprising:

identifying non-overlapping segments of sound and effective sound absence within the incoming sound;

transferring the segments of sound; and

determining a first plurality of intervals within the segments of effective sound absence, each interval immediately preceding one of the segments of sound, each interval being part of and associated with a segment of effective sound absence, the plurality of intervals comprising at least one interval shorter than a segment of effective sound absence associated with said at least one interval; and

transferring the first plurality of intervals.

22. A method in accordance with claim 21, wherein each segment of effective sound absence located between two segments of sound comprises an interval of the first plurality of intervals.

23. A method in accordance with claim 21, further comprising:

defining criteria for determining beginning of a segment of sound; and
defining criteria for determining beginning of a segment of effective sound absence.

24. A method in accordance with claim 21, wherein:

said step of transferring the segments of sound comprises recording the segments of sound; and

said step of transferring the first plurality of intervals comprises recording the first plurality of intervals.

25. A method in accordance with claim 21, wherein:

said step of transferring the segments of sound comprises transmitting the segments of sound; and

said step of transferring the first plurality of intervals comprises transmitting the first plurality of intervals.

26. A method in accordance with claim 21, wherein:

said step of transferring the segments of sound comprises audio reproducing the segments of sound; and

said step of transferring the first plurality of intervals comprises audio reproducing the first plurality of intervals.

27. A method in accordance with claim 21, further comprising dynamically defining lengths of the intervals.

28. A sound recorder, comprising:

an input receiving digitized waveforms representing sound;

a memory storing a program; and

a processor executing the program; and

an interface to a recording medium, the interface being coupled to the processor;

wherein:

the processor, under control of the program, determines sound segments within the digitized waveforms, causes the sound segments to be transferred through the interface to be recorded on the recording medium, and causes a plurality of intervals of the digitized waveforms to be transferred through the interface to be recorded on the recording medium, each interval immediately preceding one of the sound segments, at least one interval being shorter than time period between the sound segments immediately following and immediately preceding said at least one interval.

29. A sound recorder in accordance with claim 28, further comprising a microphone capable of receiving the sound and generating analog waveforms corresponding to the sound, and an analog-to-digital converter coupled to the microphone and to the input, the analog-to-digital converter being capable of receiving the analog waveforms and generating the digitized waveforms from the analog waveforms.

30. A sound recorder in accordance with claim 28, further comprising a buffer, wherein the processor causes the intervals to be stored in the buffer before the processor causes the intervals to be recorded on the recording medium.

31 A sound recorder in accordance with claim 30, wherein the buffer comprises a FIFO memory device.

32. A wireless communication device, comprising:

a microphone receiving sound waves and generating electrical waveforms corresponding to the sound waves;

a converter coupled to the microphone to receive the electrical waveforms and convert the electrical waveforms into digitized representations of the sound waves;

a memory storing a program;

a processor executing the program, the processor being coupled to the converter to receive the digitized representations of the sound waves; and

a transmitter;

wherein the processor, under control of the program, (i) determines sound segments and effective silence periods within the digitized representations of the sound waves, (ii) determines a plurality of intervals within the effective silence periods, each interval immediately preceding one of the sound segments, and causes the transmitter to transmit the sound segments and the intervals, while not transmitting portions of the effective silence periods that are outside of the intervals.

33. A wireless communication device in accordance with claim 32, further comprising a buffer where the processor stores the intervals before the processor causes the transmitter to transmit the intervals.